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Title : Research on Southern Resident Population of Killer Whales in the Pacific Northwest of the United States

Category : Conservation

Student :

Preferred Format : Oral Presentation

Abstract : A recent concern in the Pacific Northwest is the sharp decline in the population of southern resident killer whales (SRKWs). The population has declined from 97 to 78 animals in the period from 1996-2001, with adult males and calves having the highest mortality. Because of this drastic population decline and the petition for this population to be listed under the Endangered Species Act, the Marine Mammal Program at the National Marine Fisheries Service (NMFS) Northwest Fisheries Science Center developed a research plan to address possible causes for the decline and to gain a better understanding of the physiology, ecology, and behavior of these whales. Major risk factors identified as potential contributing factors to the decline of SRKWs are: decline/changes in prey resources, contaminants, and vessel disturbance. Data gaps in our general understanding of SRKWs include: winter distribution, diet, habitat use, and how high levels of contaminants affect SRKW physiology. Important focal research questions were identified during workshops to address the risk factors and data gaps. They include:

- 1) What are the baseline acoustic conditions and vessel noise characteristics in SRKW habitat?
- 2) How are habitat use and behavioral energetics of SRKW pods affected by vessel activity?
- 3) How do vessels affect SRKWs' ability to forage?
- 4) Are recent demographic trends in SRKWs consistent with nutritional limitation, contaminant stress, or both?
- 5) How do contaminant concentrations and patterns vary among SRKW prey species at different locations along Western North America?
- 6) What are SRKW prey?
- 7) How does SRKW diet selection vary seasonally?
- 8) Where are SRKWs in winter?

Currently, the NMFS Northwest Fisheries Science Center is working collaboratively with the Washington Department of Fish and Wildlife, Department of Fisheries and Oceans Canada, universities, independent researchers, and other NMFS researchers to address these questions.